

What is claimed is:

1. A surgical end effector, comprising:
  - an anvil movable between a first position and a second position, the anvil having a concave anvil surface; and
  - a convex mating surface; wherein the anvil clamps a tissue structure between the anvil surface and the mating surface when in the second position, and wherein the mating surface has a different radius of curvature than the anvil surface.
2. The device of claim 1, wherein the mating surface radius curvature is greater than the anvil surface radius curvature.
3. The device of claim 2, wherein the anvil surface has a curvature radius of approximately .11 inches and the mating surface has a curvature radius of approximately .12 inches.
4. The device of claim 2, wherein the mating surface has a curvature radius ranging from 5% to 20% larger than the curvature radius of the anvil surface.
5. The device of claim 4, wherein the mating surface has a curvature radius approximately 10% larger than the curvature radius of the anvil surface.
6. The device of claim 1, comprising a shaft having a lumen and an opening in a distal end, and wherein the mating surface is located distal of the opening.
7. The device of claim 6, wherein the mouth of the opening is approximately 5 mm.
8. The device of claim 6, wherein the mating surface is a portion of a tip disposed at least partially within the shaft lumen, and the shaft is configured such that the shaft surface contacts the mating surface at a location distal of the opening.
9. The device of claim 8, wherein the shaft includes a distal portion that is oblong in shape.

10. The device of claim 1, comprising:
  - a shaft having a lumen and an opening in a distal end;
  - a tip disposed at least partially within the shaft lumen, the tip having a proximal portion and a distal portion, and wherein the mating surface forms a surface of the proximal portion.
11. The device of claim 10, wherein the distal portion extends beyond the distal end of the shaft.
12. The device of claim 10, wherein the distal portion includes two outer portions and a narrower, middle portion disposed within the two outer portions.
13. The device of claim 1, wherein the anvil applies a clamping pressure between 280 psi and 420 psi.